**System and Method for Dynamically Partitioning
Proc ssing Across Plurality of Heterogeneous Proc ssors**

ABSTRACT

A program is into at least two object files: one object file for each of the supported processor environments. During compilation, code characteristics, such as data locality, computational intensity, and data parallelism, are analyzed and recorded in the object file. During run time, the code characteristics are combined with runtime considerations, such as the current load on the processors and the size of the data being processed, to arrive at an overall value. The overall value is then used to determine which of the processors will be assigned the task. The values are assigned based on the characteristics of the various processors. For example, if one processor is better at handling intensive computations against large streams of data, programs that are highly computationally intensive and process large quantities of data are weighted in favor of that processor. The corresponding object is then loaded and executed on the assigned processor.